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1.181

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of)
Inventor: Rene Langhans) Examiner: C. Goodman
For: ROTARY CUTTING UNIT) Group Art Unit: 3724
Serial No.: 08/883,685)
Filed on: June 27, 1997) File No. 2821-193

Hartford, Connecticut, May 21, 2001

Commissioner of Patents and Trademarks
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PETITION TO THE COMMISSIONER

Dear Sir:

In response to the Examiner's Answer mailed March 21, 2001 to Applicant's Appeal

Brief, Applicant submits this Petition pursuant to 37 C.F.R §1.181 and §1.193 for

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reconsideration of the Examiner's objections to the above-identified application for the reasons set forth herein.

INTRODUCTION

Briefly described, the present invention is directed to a circular cutter unit for equipment for cutting flat lengths of material such as sheet metal in a horizontal plane. The cutter includes upper and lower circular blades, wherein both blades lie in planes perpendicular to the horizontal plane and are in a longitudinal direction. The upper and lower circular blades are supported by upper and lower blade shafts, respectively, which are parallel with the horizontal plane and perpendicular to the longitudinal direction, both blade shafts being rotatably and rigidly affixed in a common frame. The frame having a substantially U-shape with upper and lower legs connected by a flat yoke intersecting the horizontal plane at an acute angle. A cutting gap between the circular blades is established and adjusted by loosening tightening screws and rotating a displacement bush using a pin wrench. A slot in the frame is provided for receiving the pin wrench. The cutter unit is provided with a releasably coupled driving unit having a motor connected to the lower blade, the upper blade being driven by way of the lower blade.

In a Final Office Action, the Examiner objected to the specification and drawings for the informalities and reasons set forth below. Applicant has submitted an Amendment After Final Rejection which included amendments to Figures 1 and 2 of the application in an attempt to comply with the Examiner's objections and to narrow the issues for purposes of appeal. The Examiner denied entry of the Amendment After Final Rejection citing new matter in the amendments to Figures 1 and 2. Applicant contends that no new matter is included, and the amended Figures 1 and 2 should be entered as a matter of right.

Applicant hereby petitions the Commissioner to review the Examiner's objections to the

above-identified application and the arguments set forth herein and instruct the Examiner to enter the Amendment After Final Rejection filed ^{Jan} February 8, 2001. ?

STATEMENT OF FACTS

1) Examiner has refused to enter amended FIGS. 1 and 2 included with Amendment After Final Rejection filed January 8, 2001 citing the inclusion of new matter in the Advisory Action mailed March 21, 2001. (A copy of the Letter To Official Draftsman submitted with Applicant's Amendment After Final Rejection is attached hereto as Exhibit A, the amendments are identified in red pen just as those submitted.)

2) Referring to Final Office Action, mailed March 8, 2000 the Examiner's objections are quoted as follows :

OBJECTIONS TO THE SPECIFICATION

OBJECTION No. 1: The specification is objected to because of the following: In the specification, "P. 5, line 24, the phrase "... subtending an acute angle α of about 10°" is not clearly understood. Where is this angle shown in the drawings? Appropriate correction is required."

OBJECTIONS TO THE DRAWINGS

OBJECTION No. 2: "The drawings are objected to because references "26" and "27" should be interchanged to maintain consistency with the depiction in FIG. 1. Correction is required."

OBJECTION No. 3: "The drawings are objected to under 37 C.F.R. 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore the "means for releasably coupling" (claim 1, first occurrence) must be shown or the feature(s) cancelled from the claim(s). No new matter should be entered."

OBJECTION No. 4: "The drawings are objected to as failing to comply with 37 CFR. 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "α" (Page 5, line 24). Correction is required.

3) Applicant attempted to resolve the Examiner's objections set forth in the Final Office Action by including with the Amendment After Final Rejection amended Figures 1 and 2 in the application. A description of the amendments to the drawings with respect to the above-identified objections are:

OBJECTIONS 1 and 4: Angle α identified in the specification but not shown in the drawings (See specification, Page 5, line 24);

APPLICANT'S AMENDMENT: Figure 2 was amended by adding the symbol "α" and appropriate lead lines;

OBJECTION 2: Examiner objects to reference numerals "26" and "27" in Figure 1 which should be interchanged.

APPLICANT'S AMENDMENT: Figure 1 was amended by interchanging reference numerals "26" and "27".

ADDITIONAL AMENDMENT: Figure 1 was amended to include the slot for receiving pin wrench 25. (The slot for receiving pin wrench 25 was included in the original application in Fig. 4 as described below in paragraph 4.)

4) Figure 4 as filed with the original application shows the slot for receiving pin wrench 25; Figure 4 is a cross-sectional view of the cutter unit and clearly shows the slot for receiving pin wrench 25 as the spaces between the vertical lines in frame 51 shown spaced apart from and parallel to the outer diameters of pin wrench 25. In Figure 4, the slot for receiving pin wrench 25 although correctly drawn and clearly shown is not labeled with a reference number. Pin wrench 25 in Figure 4 is shown as positioned in the slot to adjust the cutting gap between the circular

blades.

5) Pin wrenches and the slots or elongated apertures in machinery and other devices for use therewith are well known prior art devices as shown in the copies of the Stanley Steam Car documents attached hereto as Exhibit B; Stanley Steam Cars were first used and offered for sale in the United States nearly one hundred years ago.

6) The above-identified objections were previously asserted by the Examiner in the Office Action mailed March 1, 1999.

7) Applicant, in an earlier attempt to resolve the above-identified objections, filed a timely response to the Office Action mailed March 1, 1999 and included therewith amended Figures 1 and 2 (attached hereto as Exhibit C is a copy of the Letter to Official Draftsman and amended Figures 1 and 2 as submitted with the changes identified in red) wherein the only amendments were the following:

- a) Figure 2 was amended by adding the symbol " α " and appropriate lead lines to identify the angle α the drawings;
- b) Reference numbers "26" and "27" were interchanged as the mistake was correctly identified by the Examiner;
- c) The labeling for the box diagram for drive unit 30 was amended by adding the word "DETACHABLE"; and
- d) An additional proposed new figure was included for the Examiner's review in an attempt to clarify the method of using a pin wrench as applicable to the present invention. Applicant clearly stated in the Response to the Office Action mailed March 1, 1999 that the additional figure was only proposed. The new figure was labeled "PROPOSED NEW FIGURE".

8) The Examiner in the Final Office Action refused to enter the amended drawings filed

with the Response To Office Action mailed March 1, 1999 without elaboration; Identical objections to the drawings were made in the Final Office Action without a specific explanation therefor.

9) The Examiner acknowledged the existence of the slot for receiving pin wrench 25 as shown in Figure 4 in the personal interview held April 20, 2000. The content of the interview of April 20, 2000 is noted in the Statement of the Substance of the Interview as filed on May 4, 2000.

10) The Examiner also clearly understands the function and purpose of the pin wrench as can be ascertained from his comments in the Office Action dated March 8, 2000.

POINTS TO BE REVIEWED

Applicant's proper disclosure of the following elements:

1) The angle α at the intersection of the flat yoke and the horizontal plane defined by the flat sheet of material to be cut.

2) "Means for releasably coupling" drive unit 30;

3) The slot for receiving pin wrench 25; and

4) The adjustability of displacement bush 13 for adjusting the cutting gap between circular blades 2 and 4 and means therefor.

5) The features included in Applicant's proposed new figure, attached hereto as Exhibit D.

ACTIONS REQUESTED

Entry of Applicant's amendments to Figures 1 and 2 identified below:

a) Identification of the angle α in Figure 2;

- b) Interchanging reference numerals "26" and "27" in Figure 1;
- c) Addition of the word "DETACHABLE" in the identification of the block diagram representing drive unit 30 in Figure 1;
- d) Addition of the slot for receiving pin wrench 25 in Figure 1;
- e) Entry of Applicant's proposed new figure as Figure 5 in the application; The proposed new figure is attached hereto as Exhibit D; and
- f) Withdrawal of the Examiner's objections to the application identified in the Final Office Action dated March 2, 2001.

ARGUMENT

Following is a discussion of each of the numbered issues identified above under the heading Points To Be Reviewed:

1) Applicants' disclosure of the angle α at the intersection of the flat yoke and the horizontal plane defined by the flat sheet of material to be cut.

Referring to Applicants original application as amended by Preliminary Amendment filed November 20, 1997, page 5 lines 23-25, states in part:

"The upper leg 51 and lower leg 52 of frame 5 are joined by a flat yoke 53 subtending an acute angle α of about 10° with the horizontal plane 10 and can lie in a range of 8° to 12° , preferably 9° to 11° ."

There is only one upper leg 51, one lower leg 52 and one flat yoke 53 joining legs 51 and 52 in Figures 1 and 2 of the application. Each leg and the yoke is labeled with a corresponding reference number. The reference to the acute angle α in the specification is believed to be clear and unambiguous. A careful reading of the above-identified passage of the specification in conjunction with a review of Figure 1 or Figure 2 as originally filed clearly shows the angle α . It

is well established that the angular relationship between two intersecting planes is defined by the angle subtended by lines in the planes extending perpendicular to the intersection of the two planes.

The Examiner's request to label angle α on the drawings is reasonable and Applicant has amended Figure 1 accordingly in the Amendment After Final Rejection filed February 28, 2001. The objection should be withdrawn and the amendment entered.

2) Applicant's disclosure of the "means for releasably coupling" of drive unit 30.

Referring to Applicants original application, page 6 lines 19-27 read as follows:

"Circular cutter unit 14 is driven by a drive shaft 16 with an approximately square cross-section driving a gear 17 with a borehole 22 also of approximately square cross-section. Drive shaft 16 of all of the cutter units is driven by a drive unit 30 which includes an electric motor (not separately shown) or any other suitable drive means. Preferably the drive unit is a non-positive drive and one which is easily detachable from shaft 16 so that the cutter units can be individually removed from the system for adjustment and maintenance. "

Clearly, the claimed element "means for releasably coupling" the drive unit is sufficiently defined in the specification and is well established prior art. Applicant's above-identified disclosure states in part: "drive shaft 16 with an approximately square cross-section....", and continues "Drive shaft 16.... driven by a drive unit 30 which includes an electric motor or any other suitable drive means." Also, "Preferably the drive unit is easily detachable from shaft 16...." (emphasis added).

Applicant submits the following well established principle of patent law:

"[The specification] need only be reasonable with respect to the art involved; They [applicant] need not inform the layman nor disclose what the skilled already possess. They [applicant] need not describe the

conventional....The intricacies need not be disclosed ad absurdum." General Electric Co. v. Brenner, 159 USPQ 335, 337 (D.C. Cir. 1968).

The question raised is whether the scope of enablement, provided one of ordinary skill in the art by the disclosure, is commensurate with the scope of protection sought by the claims. Applicant's claim language of "means for releasably coupling" found in the original claims is clearly disclosed in the specification sufficiently to provide one skilled in the art with the well established drive shaft, motor, coupler arrangement used by the applicant in the claimed invention. The disclosure of a drive shaft driven by a drive unit, which includes an electric motor, wherein the drive unit is preferably easily detachable from the shaft, more than reasonably discloses to one skilled in the art the well established prior art configuration of a drive unit coupled to a drive shaft for powering a machine.

Applicant respectfully notes the following law on the enablement requirement of 35 U.S.C. § 112 (1) and the preferred omission of detail for the well known:

"..... In satisfying the enablement requirement, an application need not teach, and preferably omits, that which is well known in the art... How such a teaching is set forth, whether by the use of examples, or broad descriptive terminology, is of no importance since a specification which teaches how to make and use the invention in terms which correspond in scope to the claims must be taken as complying with the first paragraph of 35 USC § 112 unless there is reason to doubt the objective truth of the statements relied upon therein for enabling support." Stahelin v. Secher, 24 USPQ 2d, 1513, 1516 (B.P.A.I. 1992, emphasis added)

Applicant contends the claim language "means for releasably coupling" drive unit 30, is clearly well established prior art and sufficiently disclosed and enabled in the section of applicant's specification quoted on page 6 above. Thus, the Examiner's rejection thereof is not warranted and should be withdrawn.

3) and 4) Disclosure of the slot for receiving pin wrench 25 and adjustable displacement bush 13 for adjusting the cutting gap between circular blades 2 and 4;

The Examiner has objected in the Final Office Action dated March 8, 2000 to Applicant's amendment to Figure 1 to include the slot for receiving pin wrench 25 and states that the slot was not previously shown. Figure 4 as originally filed clearly shows both pin wrench 25 and the slot for receiving pin wrench 25. Figure 4 shows pin wrench 25 in the position as used; that is within the slot for receiving the pin wrench 25. Applicant's amendment to Figure 1, or in the proposed Figure 5, both include the longitudinal section of the slot for receiving pin wrench 25, previously disclosed in Figure 4, does not constitute the entry of new matter.

The Examiner's comments on page 4, line 6 of the Final Office Action mailed March 8, 2000, also, indicate he correctly understands the movements of the pin wrench and accommodation of the elongated slot therefor.

Applicant clearly discloses the means and method of adjusting the cutting gap between the cutting blades 2 and 4. The threaded displacement bush 13, tightening screws 24, stationary slotted nut 23, and pin wrench 25 are clearly identified and disclosed in the specification as follows:

"The cutting gap between the two circular blades 2, 4 is created and adjusted by loosening tightening screws 24 clamping the fine thread flanks of slotted nut 23 against the thread flanks of the displacement bush 13 and by subsequently rotating the displacement bush 13 using pin wrench 25 . Rotation of displacement bush 13 is converted by the pitch of the play-free fine thread between the rotating displacement bush 13 and the stationary slotted nut 23 into an adjustment motion as a result of which the cutting gap can be accurately set." (Applicant's specification, page 7, lines 11- 19).

Figure 4 as originally filed shows the slot for receiving pin wrench 25; Figure 4 is a cross-sectional view of the cutter unit and clearly shows the slot for receiving pin wrench 25 as the spaces between the vertical lines in frame 51 shown spaced apart and parallel to the outer diameter of pin wrench 25. In Figure 4, the slot for receiving pin wrench 25 although correctly drawn and clearly shown is not labeled with a reference number. Pin wrench 25 in Figure 4 is shown as positioned in the slot as used to adjust the cutting gap between the circular blades. Pin wrench 25 is intended to be removed following the blade adjustment.

Furthermore, pin wrenches and the slots or elongated apertures in machinery and other devices for use therewith are well known prior art devices. As an example, attached hereto as Exhibit B are copies of Stanley Steam Car documents highlighted to show or describe a pin wrench and use of the slot or opening for receiving it and swinging the wrench. Stanley Steam Cars were first used and offered for sale in the United States nearly one hundred years ago. Also enclosed as Exhibit C is a parts supply house catalog listing pin wrenches.

Applicant again refers to the well established principals of patent law cited above in General Electric Co. v. Brenner and Stahelin v. Secher , wherein it is very clear that the applicant "need not teach and preferably omits that which is well known in the art."

Apparently the cause of the Examiner's confusion is that the slot for receiving pin wrench 25 is shown in a cross-sectional view such that the elongated portion of the slot, that which is necessary to accommodate the throw of pin wrench 25, can not be clearly identified when viewing Fig. 4. However, the slot is clearly shown and correctly drawn on Fig. 4 and the Applicant should be allowed to transfer the slot to Fig. 1 even though the same slot when transferred to Fig. 1 may look differently to one not familiar with basic drafting principles. The

Examiner's new matter rejection of Applicant's amendment to Figure 1 to include the slot for receiving pin wrench 25 is improper and should be withdrawn.

5) Entry of Applicant's Proposed New Figure

Applicant's proposed new Figure 5 (attached hereto as Exhibit D) should also be entered in the application. The proposed new figure is merely a detailed cross-sectional drawing of the displacement bush 13 within the frame 51 and the pin wrench 25 shown interior to the slot for receiving the pin wrench. Each element shown in the proposed new figure is disclosed in the original specification. Applicant's proposed new figure was drawn specifically to clarify the Examiner's understanding of the use of pin wrench 25 to adjust the cutting gap between cutting blades 2 and 4. The Examiner rejected the proposed new figure citing new matter. Again, apparently the cause of the confusion may be that the new figure shows the slot for receiving pin wrench 25 in a view perpendicular to Figure 4 and it appears different to the Examiner. However, Applicant's new figure does not include new matter. The detailed drawing to visualize the arrangement disclosed may be helpful for the Examiner and the Applicant has complied by producing the new figure. Applicant now requests the Commissioner to instruct the Examiner to enter the new figure in the application as matter well known to those skilled in the art.

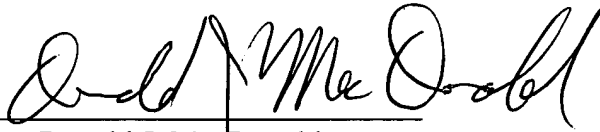
CONCLUSION

In view of the foregoing, Applicant respectfully submits that a careful reading of the specification and the drawings shows that the Applicant's amendments in response to the Examiner's objections in the Final Office Action do not introduce new matter and should be entered to narrow the issues for purposes of appeal.

Accordingly, Appellant respectfully requests the Commissioner to enter Applicant's Amendment After Final Rejection as well as the proposed new drawing identified above.

A check in the amount of \$130.00 to cover the fee for filing this Petition is enclosed herewith. If additional fees are due in conjunction with this filing or if an overpayment has been made, please debit or credit deposit account No. 13-0235 accordingly.

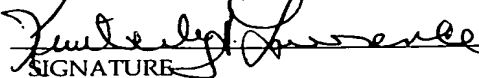
Respectfully submitted,

By 
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Registration No. 42,823
Attorney for Applicant

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Kimberly A. Lawrence
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of)	
René Langhans)	Examiner: C. Goodman
on ROTARY CUTTING UNIT)	Group Art Unit No.: 3724
Serial No.: 08/883,685)	
Filed On: June 27, 1997)	(Our Docket No. 2821-193)

Hartford, Connecticut, January 8, 2001

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LETTER TO OFFICIAL DRAFTSMAN

Sir:

In response to paragraph 4 - 6 of the Office Action dated March 8, 2000, revised informal Figures 1 and 2 are enclosed which identify angle α and switch the references to components 26 and 27. The labeling for drive unit 30 has been changed by adding the word "detachable," and a slot for the pin wrench has been added to the cutter frame 51. The changes are marked in red. No new matter has been added to the drawings by this revision.

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Respectfully submitted,

By 
Michael T. Clorite
Registration No. 44,620
Attorney for Appellant

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1 / 6

Fig. 1

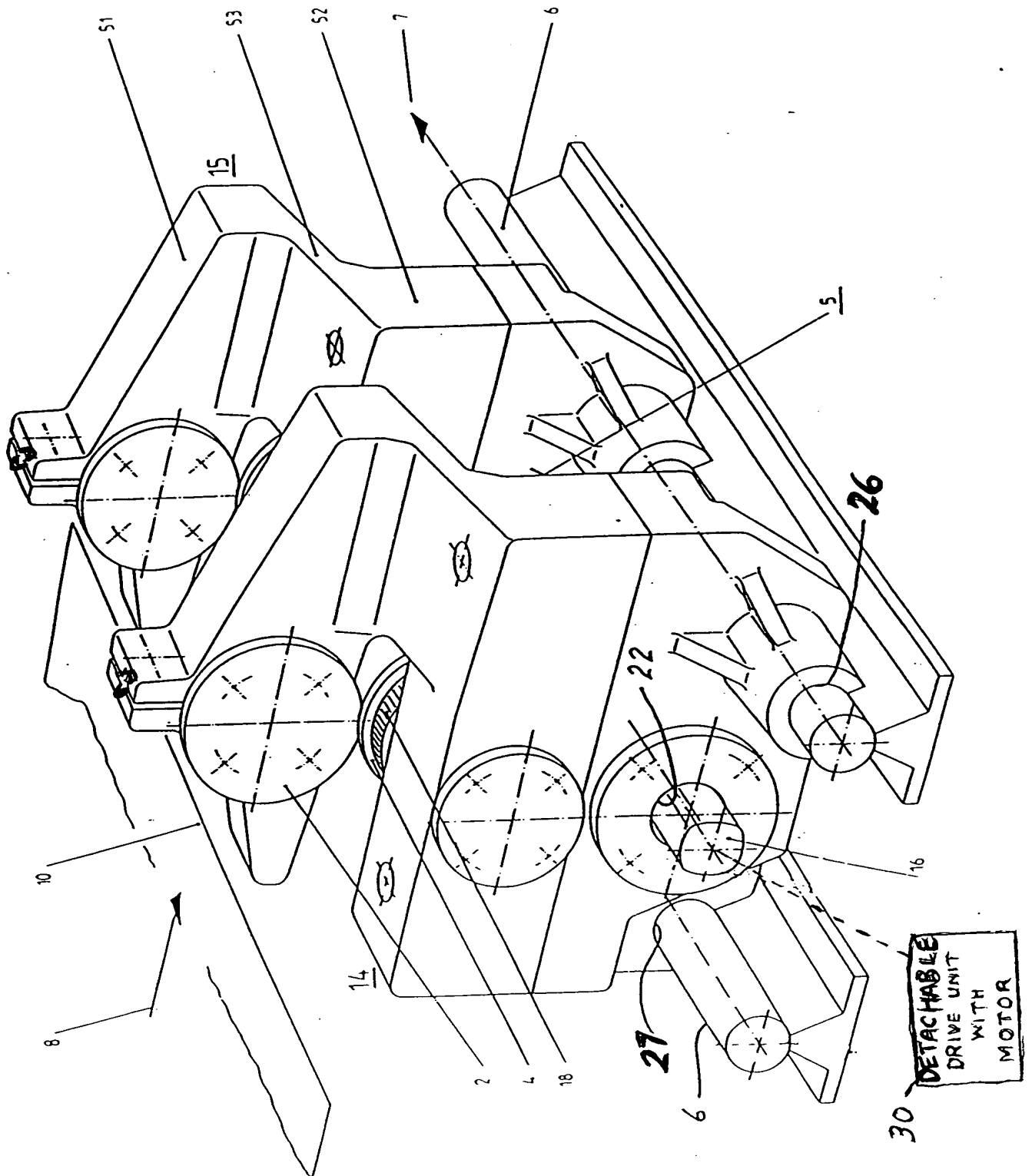




Fig. 2

St. Paul & Northern Pacific - Oct. 8/12

ST. PAUL
& NORTHERN
PACIFIC

St. Paul

FOREWORD

There is nothing mysterious about a Stanley car. Its wheels, axles, chassis frame, body, radiator, steering gear, brakes, storage battery and dynamo are similar to other cars. Its power plant and power control are different and are very simple. The power plant consists principally of

A simple two cylinder double acting steam engine, which is attached rigidly to the rear axle, so that the engine and rear axle; in fact, the whole driving mechanism is a unit, attached to the chassis frame at three points.

A boiler which supplies steam to the engine.

A kerosene burner which supplies heat to the boiler.

A set of tanks and pumps which automatically supply water to the boiler, fuel to the burner, and lubricating oil to the engine cylinders.

A set of automatic valves which control the supply of water to the boiler and fuel to the burner.

A radiator which condenses the exhaust steam and returns the water to the water tank.

A storage battery which supplies current for light and for starting the pilot light.

A dynamo which automatically charges the storage battery.

The power control consists of a throttle lever and a reverse pedal.

Mechanical knowledge is not necessary in order to drive a Stanley car successfully, but a thorough understanding of the car will assist one to get the best results under all conditions.

STANLEY MOTOR CARRIAGE CO.,

NEWTON, MASSACHUSETTS

Article 2: To STEAM UP (Continued)

See Fig. 3

Open the lower try-cock at the bottom of the water-indicator which is between the boiler and dash on the left side, and see that runs out of it.

If it does, it indicates that the water in the boiler is above this and that is sufficient for steaming up.

More does no harm but will take more time to raise steam.

If no water runs out read Paragraph 3 of Article 4.

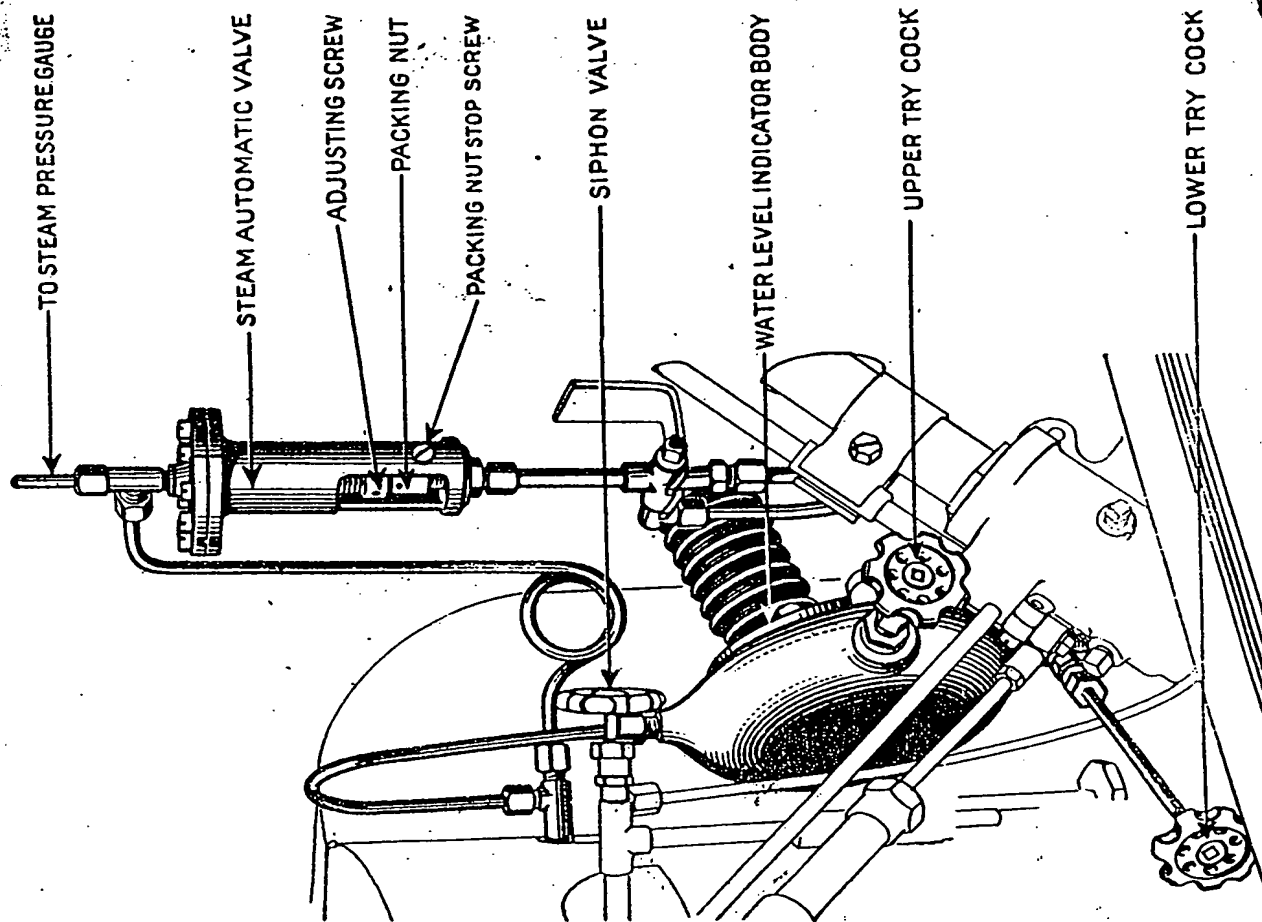


FIG 3—LEFT SIDE OF BOILER

Repair of the Stanley Steam Automatic

By Ole B. Vikre

The steam automatic valve, pc. #430 (like the fuel automatic, pc. #460, see STEAM TALK article June 1986, Volume V, Number 1) is a simple diaphragm operated valve, although it works conversely to the fuel automatic.

Clean the parts with pilot fuel, and wire-brush the body, top cap, and double cap (pc. #'s 431, 432 and 447). Then machine the two twelve-hole surfaces by taking a light skim-chip to provide perfectly planed surfaces. Two 0.014" annealed beryllium copper diaphragms and a paper gasket are held between these two surfaces by means of twelve 1/4"-20-NC fillister-head screws 9/16" long.

Machine the seat in the double (or single) head (pc. #'s 442 or 447), after removing the nipple (pc. #446). This is done by turning an adapter in your lathe with a 5/8"-20-NS thread to receive the head. Using a "Letter R" drill (0.339" dia.) ground to 90 degrees included angle, just skim the seat until bright all around. Then, use a flat-bottomed "Letter R" drill to clean the shelf around the seat.

Polish the stem, particularly in way of the packing, using Crocus cloth as the final abrasive.

Assemble the double head, nipple, and stuffing box (pc. #s 447 (or 442), 446 and 436). Screw this assembly onto the same adapter used to machine the seat and ascertain that these three parts are in perfect alignment and run true.

With the stem and ball in place, and before assembling the spring-case portion of the valve, pack the stuffing box.

Run a #16 drill (0.177" dia.) through the six holes in the adjusting screw and the stuffing box nut. Make a pin wrench from a piece of 1/4" drill rod about 3" long, turned down to 0.175" for a distance of 1/4" on one end. Chamfer each end 1/64" x 45 degrees to knock off any sharp edges. Then heat the small end red hot with a torch and quench in cylinder oil. This will toughen the wrench sufficiently to adjust your stuffing box nut and adjusting screw.

Assemble valve. Use Permatex cement on both sides of the paper gasket. Place the gasket against the twelve hole surface of the base, or top cap. Insert two fillister-head screws (180 degrees apart) through the top cap and gasket. Then put the two diaphragms in place. Bring the top cap and the body together and screw the two screws finger tight; then install the remaining ten screws.

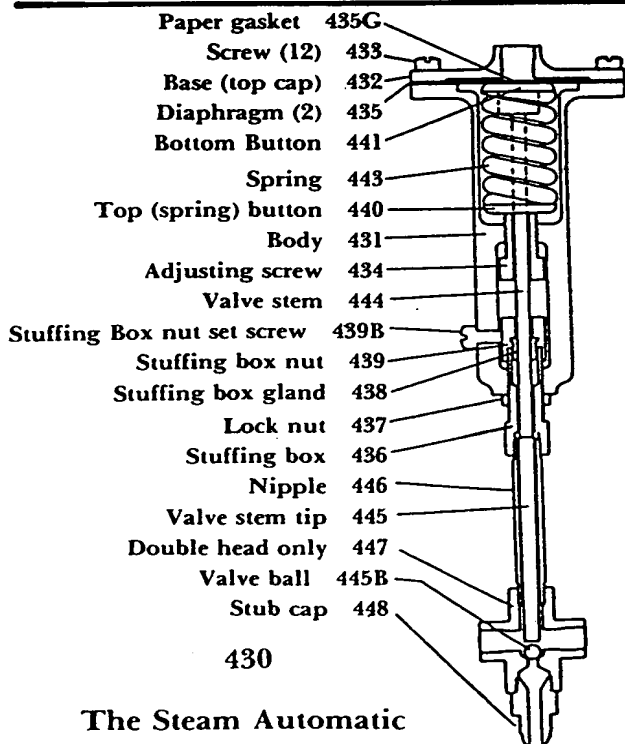
Holding the body in a vise (using copper jaws), tighten the twelve screws evenly, using a heavy-duty screw driver and a 6" adjustable wrench. After assembly, bring the adjusting screw (pc. #434) up against the top spring button (pc. #440), and compress the spring about three complete turns.

With the locknut (pc. #437) backed off as far as it will go, tighten the assembly consisting of the stuffing box, nipple, double head, and stub cap (pc. #s 436, 446, 447, and 448) until the stem holds the ball firmly on the seat. Then, back off the assembly 3/4's of a turn and set the lock nut (pc. #437) against the body (pc. #431).

Check the stuffing-box nut and adjust for proper tension. Tighten the stuffing box nut set screw, making sure that there is clearance between the end of the set screw and the stuffing box nut.

Using high pressure air, set the valve to shut off at the desired pressure, usually between 500 and 600 psi. Using the heaviest duty spring in the body should make this valve work with a maximum differential of no more than 25 psi.

If these instructions are followed carefully, this valve should give trouble-free service for many years. □



The Steam Automatic

445 Valve stem tip. Many times the valve stem tip and the valve stem (pc. #'s 445 and 444) are combined into just one stem the diameter of the valve stem.

442 Single head. This fitting, which contains the seat and valve ball (pc. #445B), was available with either one side outlet or two (pc. #447).

449 Wire gauge strainer. Although seldom found, the parts list calls for a strainer which is retained within the single head (pc. #442) or the double head (pc. #'s 447 or 447A) by means of the stub cap (pc. #448).

Stanley Fuel Automatics: A Modification

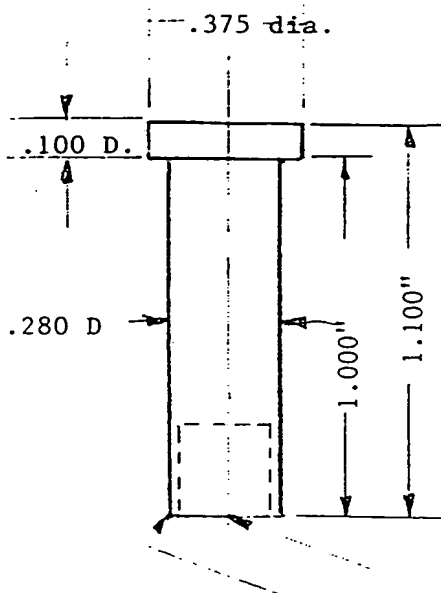
by Ole B. Vikre, Jr.

I first heard about this "fix" several years ago when I asked Ole's son-in-law, Brent Campbell, why he didn't bother to shut his pressure retaining valve when he parked his car for any length. How nice not to lose all your fuel pressure because you forget to shut it at the end of the day! I've been asking Ole for this ever since, so I'm especially happy to present this article now.

The Stanley fuel automatic, part #460 in the Stanley parts catalogue, has been manufactured in three distinct styles:

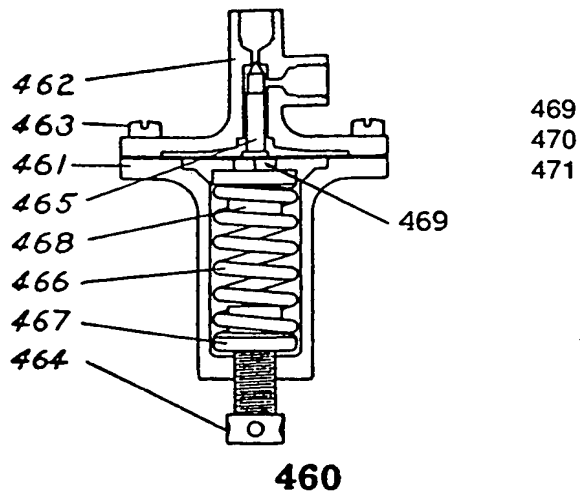
- Exactly as shown in the parts catalogue as #460 — see drawing;
- With the lower spring seat, parts catalogue #468, sitting directly on the diaphragm without the hex nut, #469;
- The style used in the condensing cars, which has an additional part, shown in the

PIECE #1



Cavity 1/4" d. x
1/4" deep for
Nylatron insert.

Swage after
insertion of
Nylatron to
retain. Insert size
1/4" d. x
7/16" long.



article as piece #2, with a 7/16"-20 thread, made completely of 5/8" hex brass. It originally had a hardened steel insert that served as a seat, a spring-loaded needle also made from steel, and used a dimpled diaphragm. The needle, parts catalogue #465, and its mating seat, which was pressed into the 7/16"-20 end of piece #2, were both hardened steel. These pieces soon rusted and otherwise deteriorated, causing leakage.

This "new" modification uses one each of pieces #1, #2 and #3, as shown, plus a gasket and diaphragm (without a hole). It also employs a Nylatron insert (also called molybdenum-filled nylon) 1/4" in diameter x 5/16" long. This insert is placed into the end of piece #1 and swaged in place. After swaging, the end is machined square with the axis of piece #1.

If your fuel automatic is exactly like #460 in the parts catalogue, the area in the way of the pin (or needle) will have to be carefully enlarged to accommodate pieces #1 and #3, finishing the bottom face with a flat-bottomed drill a few thousandths of an inch larger than the o.d. of your small spring, piece #3 (.422-.425").

The next step is to make up a sleeve from scrap brass the same i.d. and o.d. as the small spring, piece #3, but only 7/8" in length. Using this sleeve in place of the small spring, install it along with piece #1 into the valve cavity of parts catalogue #462 which you previously machined with the flat-bottomed drill.

The .375" diameter button on the end of piece #1 and the gasket surface of parts catalogue #642

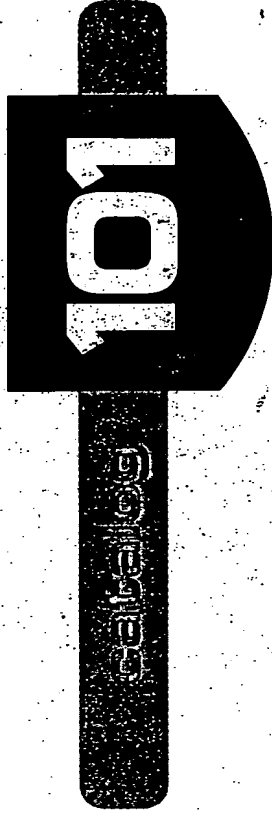
continued on Page 15

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12-POINT BERYLLIUM COPPER SOCKETS			
Size	Length	No.	NET EACH
1 1/4"	2 1/2"	6490A11	\$91.50
1 1/2"	2 1/2"	6490A12	81.50
1 3/4"	2 1/2"	6490A13	81.50
1 1/4"	2 1/2"	6490A14	81.50
1 1/2"	2 1/2"	6490A15	84.87
1 3/4"	2 1/2"	6490A16	84.87
1 1/4"	2 1/2"	6490A17	84.87
1 1/2"	2 1/2"	6490A18	84.87
1 3/4"	2 1/2"	6490A19	88.91
1 1/4"	2 1/2"	6490A20	88.91
1 1/2"	2 1/2"	6490A21	88.91
1 3/4"	2 1/2"	6490A22	88.91
AMPCO METAL DRIVE TOOLS			
Description	No.	NET EACH	
18" Flathead Wrench	6490A31	\$167.32	
17" Extension Bar	6490A32	111.86	
18" Flex Handle	6490A33	188.95	

Nonsparking Awls



BERYLLIUM COPPER. Blade is tapered for marking and puncturing. Handle is plastic.			
Blade Overall	No.	NET EACH	
1 1/4"	6453A11	\$18.32	
1 1/2"	6453A12	18.91	
1 3/4"	6453A13	18.91	
1 1/4"	6453A14	18.91	

Screwdrivers



BERYLLIUM COPPER. These screwdrivers have round blades and plastic handles.			
Tip	Length	No.	NET EACH
1 1/4"	5"	6525A1	\$9.26
1 1/2"	5"	6525A2	9.26
1 3/4"	5"	6525A3	9.26
1 1/4"	5"	6525A4	9.26
1 1/2"	5"	6525A5	9.26
1 3/4"	5"	6525A6	9.26
1 1/4"	5"	6525A7	9.26
1 1/2"	5"	6525A8	9.26
1 3/4"	5"	6525A9	9.26
1 1/4"	5"	6525A10	9.26
1 1/2"	5"	6525A11	9.26
1 3/4"	5"	6525A12	9.26
1 1/4"	5"	6525A13	9.26
1 1/2"	5"	6525A14	9.26
1 3/4"	5"	6525A15	9.26
1 1/4"	5"	6525A16	9.26
1 1/2"	5"	6525A17	9.26
1 3/4"	5"	6525A18	9.26
1 1/4"	5"	6525A19	9.26
1 1/2"	5"	6525A20	9.26
1 3/4"	5"	6525A21	9.26
1 1/4"	5"	6525A22	9.26
1 1/2"	5"	6525A23	9.26
1 3/4"	5"	6525A24	9.26
1 1/4"	5"	6525A25	9.26
1 1/2"	5"	6525A26	9.26
1 3/4"	5"	6525A27	9.26
1 1/4"	5"	6525A28	9.26
1 1/2"	5"	6525A29	9.26
1 3/4"	5"	6525A30	9.26
1 1/4"	5"	6525A31	9.26
1 1/2"	5"	6525A32	9.26
1 3/4"	5"	6525A33	9.26
1 1/4"	5"	6525A34	9.26
1 1/2"	5"	6525A35	9.26
1 3/4"	5"	6525A36	9.26
1 1/4"	5"	6525A37	9.26
1 1/2"	5"	6525A38	9.26
1 3/4"	5"	6525A39	9.26
1 1/4"	5"	6525A40	9.26
1 1/2"	5"	6525A41	9.26
1 3/4"	5"	6525A42	9.26
1 1/4"	5"	6525A43	9.26
1 1/2"	5"	6525A44	9.26
1 3/4"	5"	6525A45	9.26
1 1/4"	5"	6525A46	9.26
1 1/2"	5"	6525A47	9.26
1 3/4"	5"	6525A48	9.26
1 1/4"	5"	6525A49	9.26
1 1/2"	5"	6525A50	9.26
1 3/4"	5"	6525A51	9.26
1 1/4"	5"	6525A52	9.26
1 1/2"	5"	6525A53	9.26
1 3/4"	5"	6525A54	9.26
1 1/4"	5"	6525A55	9.26
1 1/2"	5"	6525A56	9.26
1 3/4"	5"	6525A57	9.26
1 1/4"	5"	6525A58	9.26
1 1/2"	5"	6525A59	9.26
1 3/4"	5"	6525A60	9.26
1 1/4"	5"	6525A61	9.26
1 1/2"	5"	6525A62	9.26
1 3/4"	5"	6525A63	9.26
1 1/4"	5"	6525A64	9.26
1 1/2"	5"	6525A65	9.26
1 3/4"	5"	6525A66	9.26
1 1/4"	5"	6525A67	9.26
1 1/2"	5"	6525A68	9.26
1 3/4"	5"	6525A69	9.26
1 1/4"	5"	6525A70	9.26
1 1/2"	5"	6525A71	9.26
1 3/4"	5"	6525A72	9.26
1 1/4"	5"	6525A73	9.26
1 1/2"	5"	6525A74	9.26
1 3/4"	5"	6525A75	9.26
1 1/4"	5"	6525A76	9.26
1 1/2"	5"	6525A77	9.26
1 3/4"	5"	6525A78	9.26
1 1/4"	5"	6525A79	9.26
1 1/2"	5"	6525A80	9.26
1 3/4"	5"	6525A81	9.26
1 1/4"	5"	6525A82	9.26
1 1/2"	5"	6525A83	9.26
1 3/4"	5"	6525A84	9.26
1 1/4"	5"	6525A85	9.26
1 1/2"	5"	6525A86	9.26
1 3/4"	5"	6525A87	9.26
1 1/4"	5"	6525A88	9.26
1 1/2"	5"	6525A89	9.26
1 3/4"	5"	6525A90	9.26
1 1/4"	5"	6525A91	9.26
1 1/2"	5"	6525A92	9.26
1 3/4"	5"	6525A93	9.26
1 1/4"	5"	6525A94	9.26
1 1/2"	5"	6525A95	9.26
1 3/4"	5"	6525A96	9.26
1 1/4"	5"	6525A97	9.26
1 1/2"	5"	6525A98	9.26
1 3/4"	5"	6525A99	9.26
1 1/4"	5"	6525A100	9.26

Square-Drive Sockets and Drive Tools



1. BERYLLIUM COPPER SOCKETS

Length	No.	NET EACH
1 1/4"	6503A19	\$23.38
1 1/2"	6503A21	22.30
1 3/4"	6503A22	22.30
1 1/4"	6503A23	22.30
1 1/2"	6503A24	22.30
1 3/4"	6503A25	22.30
1 1/4"	6503A26	22.30
1 1/2"	6503A27	22.30
1 3/4"	6503A28	22.30
1 1/4"	6503A29	22.30
1 1/2"	6503A30	22.30
1 3/4"	6503A31	22.30
1 1/4"	6503A32	22.30
1 1/2"	6503A33	22.30
1 3/4"	6503A34	22.30
1 1/4"	6503A35	22.30
1 1/2"	6503A36	22.30
1 3/4"	6503A37	22.30
1 1/4"	6503A38	22.30
1 1/2"	6503A39	22.30
1 3/4"	6503A40	22.30
1 1/4"	6503A41	22.30
1 1/2"	6503A42	22.30
1 3/4"	6503A43	22.30
1 1/4"	6503A44	22.30
1 1/2"	6503A45	22.30
1 3/4"	6503A46	22.30
1 1/4"	6503A47	22.30
1 1/2"	6503A48	22.30
1 3/4"	6503A49	22.30
1 1/4"	6503A50	22.30
1 1/2"	6503A51	22.30
1 3/4"	6503A52	22.30
1 1/4"	6503A53	22.30
1 1/2"	6503A54	22.30
1 3/4"	6503A55	22.30
1 1/4"	6503A56	22.30
1 1/2"	6503A57	22.30
1 3/4"	6503A58	22.30
1 1/4"	6503A59	22.30
1 1/2"	6503A60	22.30
1 3/4"	6503A61	22.30
1 1/4"	6503A62	22.30
1 1/2"	6503A63	22.30
1 3/4"	6503A64	22.30
1 1/4"	6503A65	22.30
1 1/2"	6503A66	22.30
1 3/4"	6503A67	22.30
1 1/4"	6503A68	22.30
1 1/2"	6503A69	22.30
1 3/4"	6503A70	22.30
1 1/4"	6503A71	22.30
1 1/2"	6503A72	22.30
1 3/4"	6503A73	22.30
1 1/4"	6503A74	22.30
1 1/2"	6503A75	22.30
1 3/4"	6503A76	22.30
1 1/4"	6503A77	22.30
1 1/2"	6503A78	22.30
1 3/4"	6503A79	22.30
1 1/4"	6503A80	22.30
1 1/2"	6503A81	22.30
1 3/4"	6503A82	22.30
1 1/4"	6503A83	22.30
1 1/2"	6503A84	22.30
1 3/4"	6503A85	22.30
1 1/4"	6503A86	22.30
1 1/2"	6503A87	22.30
1 3/4"	6503A88	22.30
1 1/4"	6503A89	22.30
1 1/2"	6503A90	22.30
1 3/4"	6503A91	22.30
1 1/4"	6503A92	22.30
1 1/2"	6503A93	22.30
1 3/4"	6503A94	22.30
1 1/4"	6503A95	22.30
1 1/2"	6503A96	22.30
1 3/4"	6503A97	22.30
1 1/4"	6503A98	22.30
1 1/2"	6503A99	22.30
1 3/4"	6503A100	22.30

2. BERYLLIUM COPPER SOCKETS

ring aluminum.			NET/SET \$520.42
6503A2			
1-PIECE SET—includes one each of the			
1/4 to 1 1/2" listed above, plus one of each size			
1/4" set listed. Set is packed in a nonsparking			
aluminum case.			
6503A1		NET/SET \$788.83	
1/4" SQUARE—DRIVE IMPACT SOCKETS—			
1/4" 12-point standard sockets are made of			
beryllium copper.			
	No.	NET EACH	
1 1/4"	6527A11	\$73.68	
1 1/2"	6527A13	77.10	
1 3/4"	6527A14	81.52	
1 1/4"	6527A15	90.85	
1 1/2"	6527A16	98.21	
1 3/4"	6527A17	106.54	
2"	6527A18	114.87	
NONSPARKING ALUMINUM CASE—Size			
18" long x 3 1/2" wide x 1 1/2" deep			
6503A17		NET EACH \$90.97	

WRENCHES,.....2124
 Oil Filter.....540, 2148
 Open End.....2154-2161, 2179
 Open End.....2125
 Nonmagnetic.....2125
 Open End.....2125
 Nonmagnetic.....2125
 Pin Nonmagnetic.....2125
 Pin Nonmagnetic.....2125
 Pipe.....2148-2152
 Pipe Nonmagnetic.....2125
 Pipe Nonmagnetic.....2125
 Pliers.....2151
 Pneumatic Ratchet.....2191
 Power Socket.....2186
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 Railroad.....2125
 Nonmagnetic.....2125
 Railroad Nonmagnetic.....2125
 Ratchet.....2121, 2175, 2179-2180, 2184-2185, 2190-2191, 2196
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 Ratchet Insulated.....2179
 Ratchet Nonmagnetic.....2124
 Ratchet Nonmagnetic.....2124
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 Socket Nonmagnetic.....2124

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 Spanner.....2122, 2125
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 Spud Open End.....2154
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 Structural.....2125
 Nonmagnetic.....2125
 Structural.....2125
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ZETEX.....797
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YARN,.....2541
 Ceramic.....2541
YARN,.....2541
 Kevlar.....2541
 Natural Gut.....403
 Nomex.....2541

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ERRORS: Please notify us promptly of any order. We guarantee your satisfaction.

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Before using, the user must determine the suitability for its intended use, and the user assumes all risk with. Neither we nor the manufacturer know or the use to which the user will put the product.

O.S.H.A. To the best of our knowledge, our products comply with Federal Occupational Safety and Health Act standards of items shown in this catalog as meeting standards. In view of the fact that the actual use of products and circumstances have been met, the user assumes all risk.

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John C. Langhans
ATTORNEY FOR APPLICANT

July 30, 1999
DATE OF SIGNATURE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of)
Rene Langhans) Group Art Unit; 3724
on ROTARY CUTTING UNIT)
Serial No.: 08/612,212)
Filed: March 6, 1996) (Our Docket No. 2821-193)

Hartford, Connecticut, July 30, 1999

Box OFFICIAL DRAFTSMAN
Assistant Commissioner for Patents
Washington, D.C. 20231

LETTER TO OFFICIAL DRAFTSMAN

Sir:

In response to paragraph 4 - 6 of the Office Action dated March 1, 1999, revised informal Figures 1 and 5 are enclosed which identify angle α and switch the references to components 26 and 27. The labeling for drive unit 30 has been changed by adding the word "detachable." The changes are marked in red.

In addition, a proposed new figure is included for review by the Examiner


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OFFICE OF PETITIONS

and possible addition to the application at a later date. No new matter has been added to the drawings by this revision.

Respectfully submitted,

By 
John C. Linderman
Registration No. 24,420
Attorney for Applicant

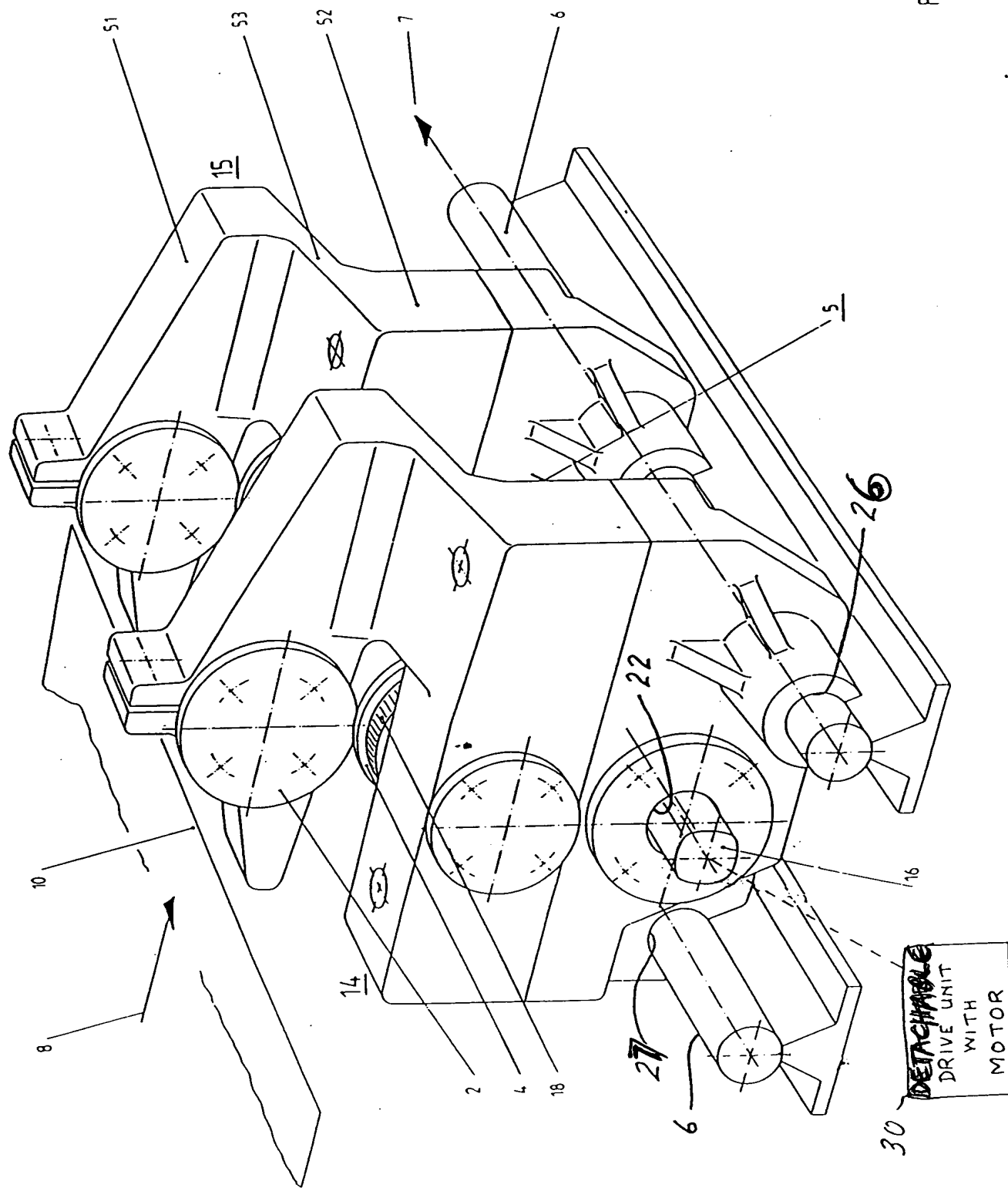
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Fig. 1



2/6

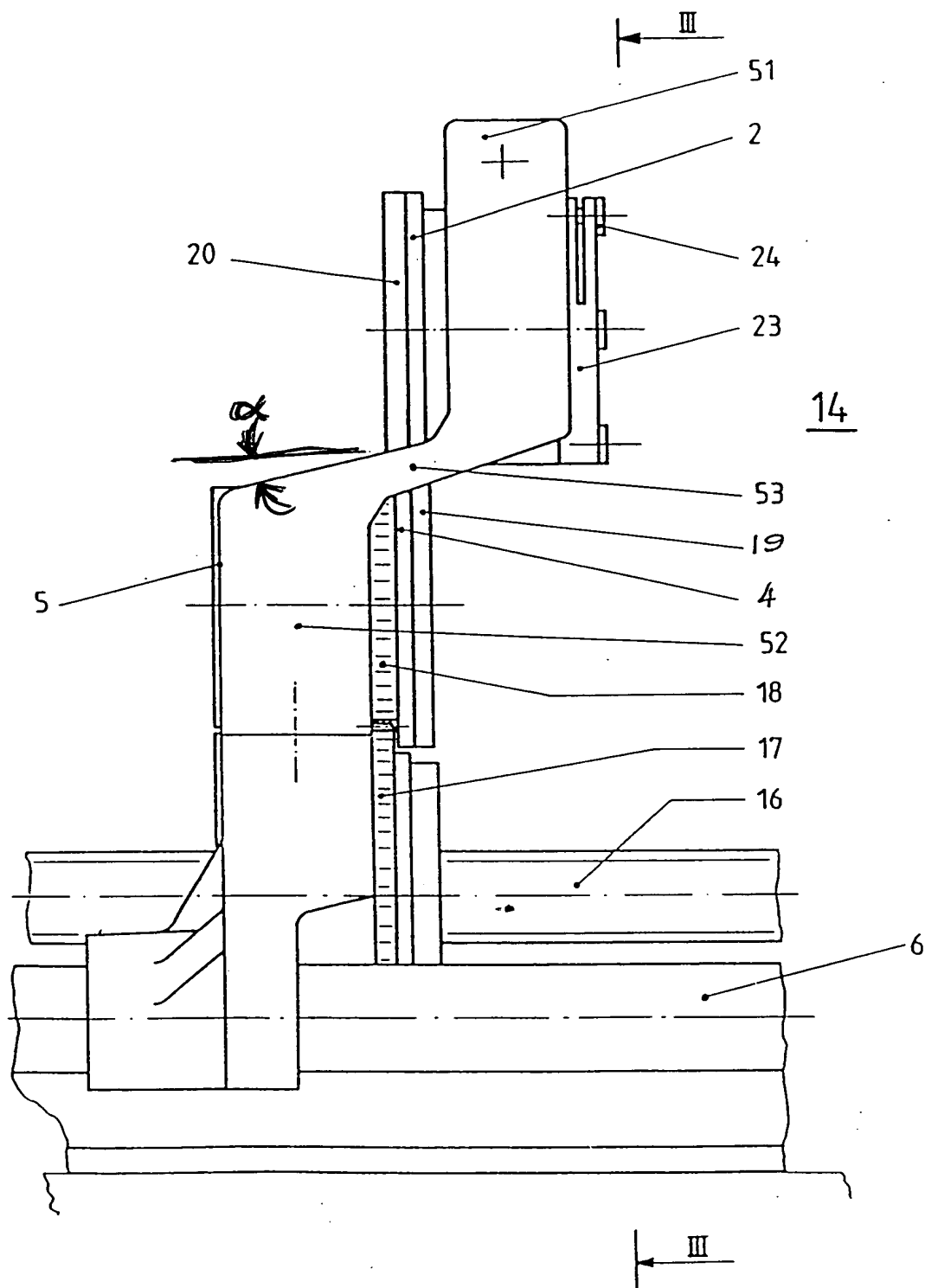
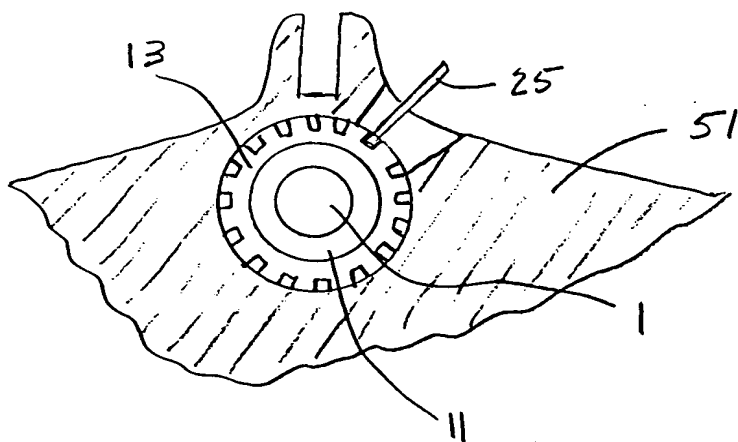


Fig. 2



PROPOSED NEW FIGURE (IF REQUESTED
BY EXAMINER)

Ser./Pat/TM No. 08/1612,212

File No. 2821-193

Name Rene Langhans

Hon. Commissioner of Patents

Sir:

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Respectfully,

McCormick, Paulding & Huber

Date Received:

AUG - 5 1999

✓ Figs 42 & 3

☐ Application

☒ Amendment

☐ Final Fee

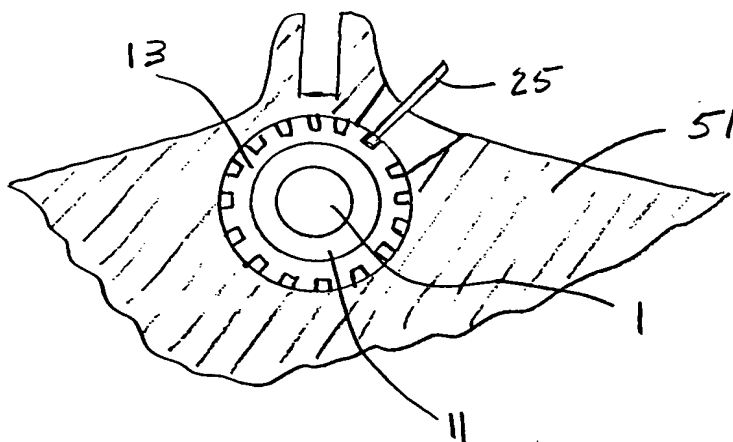
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PROPOSED NEW FIGURE (IF REQUESTED)
BY EXAMINER

FIG. 5

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